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ORA Project Mgr.	:	Rajan Mutialu
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OFFICE OF RATEPAYER ADVOCATES
California Public Utilities Commission

REBUTTAL TESTIMONY ON SAN DIEGO GAS AND ELECTRIC COMPANY'S VEHICLE GRID INTEGRATION PILOT PROGRAM

A.14-04-014

San Francisco, California
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I. INTRODUCTION

The Office of Ratepayer Advocates (ORA) submits its Rebuttal Testimony regarding San Diego Gas and Electric Company's (SDG&E) Vehicle to Grid Integration (VGI) application, Application (A.)14-04-014. Based upon the parties' testimony, ORA recommends that the Commission adopt the following policies related to the design and implementation of Investor Owned Utility (IOU) electric vehicle service equipment (EVSE) programs in the Alternative Fuel Vehicle Order Instituting Rulemaking (R).13-11-007 (AFV OIR):

- Developing a common framework to evaluate IOU EVSE applications;
- Limiting ratepayer funding to the "make ready" portion of the EVSE infrastructure;
- Centralizing statewide administration of marketing, education, and outreach efforts through Energy Upgrade California;
- Ensuring that any Commission-approved electric vehicle (EV) charging station rebates are limited to a small percent of the charger cost and based upon EVSE utilization;
- Alleviating the anti-competitive aspects of SDG&E's VGI Pilot Program including reducing its scale, monitoring market competition, using the Commission's affiliate transaction rules, and setting rules to promote the transparency of EV charging technologies;
- Prioritizing the siting of EVSEs in multi-unit dwelling instead of workplaces; accounting for customer needs in EVSE infrastructure deployment;
- Ensuring that access to cap and trade revenues adhere to standards adopted in Decision (D.)12-12-003 and D.14-10-033;
- Adopting an interoperability standard that does not delay deployment of IOU EVSE pilots; and
- Considering the IOU EVSE pilots in the context of IOU Distributed Resource Plans, R.14-08-013.

As a means of addressing the aforementioned issues and concerns about SDG&E's VGI Pilot Program raised by other parties and to avoid delay in deploying EVSE infrastructure in each of the IOU's service territory, ORA recommends that the

Commission hold proceedings to consider and adopt the California Electric Vehicle Infrastructure Pilot (Cal EVIP) proposal so that fundamental policy issues that are common to all the IOU applications can be discussed in parallel through a separate track of the AFV OIR.

II. RATEPAYER FUNDING

A. Ratepayers should fund only the "make ready" part of the EVSE infrastructure

The Green Power Institute (GPI) recommends "the Commission follow SCE's [Southern California Edison's] approach of owning the "make ready" infrastructure with respect to SDG&E's application, rather than allowing SDG&E to own the chargers themselves."[1] TURN also recommends that ratepayer investment should only cover infrastructure up to the "make-ready" stub.[2] ChargePoint proposes focusing "utility investment dollars where they will have the most "bang for the buck", which is in the "make ready"" infrastructure.[3]

ORA supports ratepayer funding for EV charging infrastructure up to the stub as long as the project is a pilot and not a full-scale business model. The EV charging infrastructure includes warranted distribution upgrades, trenching, panels and conductors leading up to the physical EV chargers. Ratepayer support for these portions of the EV charging infrastructure would eliminate some of the barriers to third-party EVSE deployment[4] and help the EV charging station market grow.

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[1] Testimony of the Green Power Institute (GPI) on San Diego Gas & Electric Company's Electric Vehicle Grid-Integration Pilot Program in A.14-04-014, p.2.

[2] The Utility Reform Network (TURN), Prepared Direct Testimony of Eric Borden Regarding SDG&E's Application 14-04-014 for Authority to Build electric Vehicle Infrastructure, p.14.

[3] Opening Testimony of Colleen C. Quinn on behalf of ChargePoint, Inc. Regarding San Diego Gas & Electric Company Application for Authority to Implement a Pilot Program for Electric Vehicle-Grid Integration, p.18.

[4] According to ChargePoint, the "obstacle…is the total cost of the project, at least half of which is in retrofitting the site, trenching, and installing the transformer upgrades and other "make ready" facilities and labor on the utility side." Opening Testimony of Colleen C. Quinn on behalf of ChargePoint, Inc. Regarding San Diego Gas & Electric Company Application for Authority to Implement a Pilot Program for Electric Vehicle-Grid Integration, p.16.

The assumption that ratepayer funding of the "make ready" infrastructure will benefit the EV charging market and EV adoption should be tested prior to Commission approval of IOU EVSE ownership. To test this hypothesis, ORA recommends that the Commission schedule proceedings to consider and adopt its Cal EVIP. Cal EVIP intends to inform future full-scale rollout of EVSEs in a consistent manner across each IOU territory. Cal EVIP proposes that ratepayers fund the "make ready" portion of the EVSE infrastructure for site owners or electric vehicle service providers (EVSPs). Cal EVIP will aim to deploy 500 EV charging stations in SDG&E's service territory, 1500 EV charging stations in SCE's service territory, and 1700 EV charging stations in SDG&E's service territory for a 12 to 18 month period. During this period, data related to specific performance metrics including but not limited to EVSE barriers, EVSE utilization, load impacts, and the impact of ratepayer funding on enrollment in Cal EVIP will be gathered and analyzed by the IOUs.

B. Third-party EVSPs should have "skin in the game" and any rebates for chargers should be given on a limited basis and should comprise of only a minimal amount of the charger cost.

TURN recommends limiting utility ratepayer investment to the "make ready" portion of the EVSE infrastructure to ensure host sites have "skin in the game."[5] This will allow the risk of stranded costs to be shared among ratepayers and the private market.[6] Ensuring that hosts invest their own capital into the chargers and charger installation will help optimize site selection.[7] ChargePoint proposes that any rebates "for EVSE and network costs do not cover the entire cost of the equipment and services"[8] to

[5] Borden, TURN Opening Testimony, p. 15.

[6] Id.

[7] Id.

[8] Quinn, ChargePoint, Inc., p. 18.

guarantee that the host has some "skin in the game" and that chargers are installed according to EV demand and where private investment in EVSE is leveraged.[9]

ORA agrees with TURN that ratepayer investment should be limited to the "make ready" portion of the EVSE infrastructure. ORA supports third-party investment in EVSE because it should be a competitive business. If the Commission determines that some form of rebates for charging stations may be necessary to help increase EV adoption, then ORA agrees with ChargePoint that any rebates should be minimal and should be capped at a reasonable dollar amount. In this scenario, ORA recommends that the Commission consider and adopt EV charger rebates as outlined in Cal EVIP. Rebates should only comprise 25% of the base cost, with a base cost cap of $3,900 as SCE proposes in their Charge Ready and Market Education Program.[10] The rebate of 25% will be offered in two stages: first, 15% of the base cost can be offered upon installation of the charging stations, and then the remaining 10% of the rebate can be offered upon a showing of sufficient utilization (i.e. 50% utilization of EV chargers at each site) at the end of the pilots. This approximate rebate amount of $1000 on the EV charger base cost cap[11] is similar in scale to EV charger rebates offered by the City of Anaheim for Level 2 chargers.[12]

[9] Id. at p. 13.

[10] Prepared Testimony In Support Of Southern California Edison Company's Charge Ready Application, Volume 02—Phase 1 Charge Ready And Market Education Pilot. p. 4. Application Of Southern California Edison Company (U 338-E) For Approval of Its Charge Ready AND Market Education Programs (A.14-10-014) filed on October 10, 2014. SCE utilizes an estimate base cost of $3,900 in order to estimate program capital costs, but notes that "[t]he base value offered for a charging station within each minimum functionality profile will inform the base cost of a charging unit. SCE will use this base cost to establish a per unit rebate of the three profiles."

[11] 25% of the EV charger base cost cap is 0.25 x $3,900 or $975.

[12] Anaheim Public Utilities, Plug-In Electric Vehicle Charger Rebate Program, Plug-In Electric Vehicle Incentives http://www.anaheim.net/article.asp?id=4946

III. ANTI-COMPETITIVE ASPECTS

A. SDG&E's VGI Pilot Program resembles a fully developed business plan rather than a pilot designed to test assumptions.

Several parties state that because of its size, SDG&E's VGI Pilot Program is more akin to a fully developed business venture than a pilot and will therefore foster an anti-competitive market.[13] UCAN asserts that SDG&E's proposal to add 5,500 utility-owned EV charging stations to an area that currently only contains 730 EV charging stations amounts to a full program business model rather than an initial, research-oriented test project.[14] ChargePoint dismisses SDG&E's assertion that the VGI Pilot Program would only account for approximately 20% of the EVSE market in 2025 as unreasonable.[15]

ORA concurs with UCAN that SDG&E's proposed pilot for 5,500 charging stations does not fit the definition of a pilot but rather more clearly resembles a full-scale business model. A pilot has been defined as a "version of the main study that is run in miniature to test whether the components of the main study can all work together."[16] SDG&E's program exceeds this definition in scope, cost and duration. ORA also agrees with ChargePoint that SDG&E's assertion regarding the state of the EVSE market in 2025 is not reasonable. SDG&E's estimate is based on the likelihood that third party providers of EVSE and EV charging services would be able to expand their markets alongside SDG&E's VGI Pilot Program. ORA agrees with ChargePoint that this estimate fails to consider the effect of SDG&E's market advantages on the ability of third party providers of EVSE and EV charging services to compete with SDG&E's VGI Pilot Program; namely the ability to obtain financing to expand their businesses in the SDG&E

[13] Monsen, ChargePoint testimony p. 16; Prepared Direct Testimony of David R. Croyle on behalf of the Utility Consumers' Action Network (UCAN) testimony, p. 7.

[14] Croyle, UCAN testimony p. 14-15.

[15] Monsen, ChargePoint testimony p. 17.

[16] Arain, M., Campbell, M.J., Cooper, C.L. and Lancaster, G.A "What is a pilot or feasibility study? A review of current practice and editorial policy." BMC Medical Research Methodology 2010, 10:67 Downloaded from: http://www.biomedcentral.com/content/pdf/1471-2288-10-67.pdf

service area. Given the potential for these anti-competitive effects on the EV charging market, ORA recommends that the Commission schedule proceedings to consider and adopt Cal EVIP which does not permit IOU EVSE ownership but instead envisions the deployment of third-party, workplace, or MuD property manager owned EVSEs.

B. If the Commission approves SDG&E's VGI Pilot Program, then it should ensure that SDG&E's complete ownership of EV charging infrastructure does not compromise competition.

The Commission noted in D. 14-12-079 that it would examine the potential competitive impacts of any proposed utility program as part of a balancing test intended to weigh the benefits of utility ownership of EV fueling infrastructure against the potential competitive limitation associated with that ownership.[17]

The Environmental Defense Fund (EDF) recommends that the Commission determine "what information can and should be collected, and by what entities, to monitor market conditions and ensure that competition is not compromised by allowing SDG&E to own EV charging infrastructure."[18] EDF also suggests that the Commission should ensure that the request for proposals (RFP) process is transparent.[19]

Under SDG&E's VGI Pilot Program, only EV drivers who are also SDG&E residential customers may participate.[20] SDG&E's VGI Pilot Program would establish its own, proprietary design and product specifications.[21] ChargePoint contends that although SDG&E claims that it addresses anti-competitive impacts through its RFP process with third-party providers, SDG&E's specifications for procured EVSE and associated information technology (IT) hardware and software actually limits customer choice.[22]

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[17] D.14-12-079 p. 5-8.

[18] Opening Testimony of Dr. James Fine on behalf of Environmental Defense Fund (EDF) Regarding SDG&E's Application 14-04-014 for Authority to Build Electric Vehicle Infrastructure, p. 22.

[19] Fine, EDF testimony p. 23.

[20] Prepared Direct Testimony of Randy Schimka of SDG&E A. 14-04-014, Chapter 2, p. RS-2

[21] Id.

[22] Quinn, ChargePoint testimony p. 11.

ChargePoint also argues that requiring SDG&E VGI Pilot Program customers to subscribe to its VGI Program Technology prevents companies that provide authentication options, asset management, energy management, driver care, station owner care, monitoring and statistics, and remote maintenance services from serving these customers.[23] ChargePoint further contends that SDG&E's specifications for its EVSE and related cloud-based EV communications were developed from a utility perspective and not from the perspective of private sector companies that have worked with customers.[24]

ORA concurs with EDF that the Commission should determine what data is necessary to help it monitor market competition to ensure a level playing field in this nascent market. ORA also agrees with EDF that the Commission should ensure that the process for selecting winning bids is transparent. ORA agrees with ChargePoint that SDG&E's plan to establish its own, proprietary design and product specifications will inhibit customer choice by dictating all of the specifications for EV charging infrastructure and related services procured through the RFP process. Furthermore, ORA agrees with ChargePoint that preventing companies that provide alternative designs and product specifications from participating in the SDG&E's EV implementation program is anti-competitive and limits the positive effects of innovative technologies on the PEV market. Cal EVIP will circumvent anti-competition issues in the EVSE market by prohibiting IOU ownership of charging stations during the pilot phase. In essence, the need to monitor market competition and impairment of customer choice due to the required use of an IOU's proprietary design and product specifications will be obviated.

[23] Quinn, ChargePoint testimony p. 8-9

[24] Id.

C. The Commission should ensure that SDG&E's participation in the ancillary services and wholesale markets through use of VGI Pilot Plan resources abides by fair market principles.

EDF recommends that the Commission ensure that SDG&E does not use its VGI Pilot Program resources to undermine fair market competition in ancillary services and wholesale markets.[25]

ORA concurs with EDF that if SDG&E uses its VGI Pilot Program to participate in the ancillary services and wholesale markets, then it should abide by fair market principles. ORA also recommends that SDG&E coordinate its efforts consistent with the State objectives in the Distributed Resource Plan (DRP) Proceeding[26] and to ensure that data and findings on grid management can be used to assess integration capacity and locational benefits.

D. The Commission should use its Affiliate Transaction Rules to guard against anti-competition.

ChargePoint argues that the Commission should rely on the affiliate transaction rules, which were designed to mitigate the anti-competitive impacts or unfair advantages held by utilities, to evaluate SDG&E's VGI Pilot Program.[27] The affiliate transaction rules state that "[e]xcept as provided for in these Rules, new products and services shall be offered through affiliates."[28] These rules were developed to minimize the effects of a monopoly utility's inherent market power in unregulated, competitive markets.[29]

ORA agrees with ChargePoint, and other parties [30] that the Commission should use the affiliate transaction rules, in order to ensure that SDG&E's VGI Pilot Program does not discourage competition.

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[25] Id.

[26] R.14-08-013.

[27] Quinn, ChargePoint testimony p. 6.

[28] D.06-12-029 (December 14, 2006) (Appendix A-i, Section VII).

[29] Id.

[30] Shell Energy, Opening Comments on the Proposed Decision p. 3-4.

IV. MARKETING, EDUCATION AND OUTREACH EFFORTS

A. ORA recommends that a third-party serve as the central statewide administrator for any marketing, education, and outreach program to ratepayers through Energy Upgrade California.

ORA recommends that a third party serve as the central statewide administrator to create a statewide EV marketing education, and outreach program (ME&O), with Commission oversight and with utility and stakeholder participation. ORA recommends that the EV ME&O program be administered through Energy Upgrade California[31] to: (1) educate customers in a competitively neutral manner; (2) eliminate potential duplicative and contradictory spending on separate marketing by each utilities; and (3) provide customers with clear, accurate, and coherent information explaining the EV program and California's larger climate change strategies to reduce greenhouse gas (GHG) emissions through the electrification of the transportation sector.

A third party administrator, tasked with educating and encouraging drivers to buy EVs to help decarbonize the transportation sector would be better positioned to articulate California's larger climate change policies and develop the content of EV ME&O communication in a competitively neutral manner than a utility whose mission is to sell energy and achieve shareholder profits. The utilities may be able to handle certain customer interactions, including interacting with customers who have existing account representatives; providing messaging to customers using bill inserts, email and newsletters; and managing content on utility websites. Therefore, ORA suggests the Commission develop an approach that allocates the responsibility for customer education and outreach activities between the utilities and a third party EV ME&O administrator. Cal EVIP offers a viable approach by delegating *pilot specific*[32] outreach and marketing

[31] Energy Upgrade California is a program that educates and connects residents and small businesses to information, resources, and rebate programs Californians can utilize to reduce GHG emissions and lessen the impacts of climate change. *See* http://www.energyupgradeca.org/en/

[32] Pilot Specific refers to the outreach and marketing channels the utilities will use to stimulate interest in site owners or third party electric vehicle service providers to participate in the pilot.

to the utilities and assigning *broad outreach*[33] of electric vehicle marketing, education, and outreach program to Energy Upgrade California (EUC).

V. PILOT DESIGN

A. The Commission should provide a framework to evaluate and implement SDG&E's VGI Pilot Program.

Green Power Institute (GPI) advocates that the Commission take a proactive approach to evaluate IOU applications in a Commission led framework to achieve the Governor's Zero Emission Vehicle (ZEV) mandates.[34] In addition, ChargePoint recommends that the Commission establish an advisory board, including CPUC staff and stakeholders, to guide implementation of SDG&E's VGI Pilot Program.[35]

ORA agrees with GPI that the Commission should take a proactive approach to evaluate IOU applications, through the creation of a separate track in the Alternate Fueled Vehicle Order Instituting Rulemaking (AFV OIR), R.13-11-007 that aims to develop a framework for such an evaluation. To guide this process, ORA recommends that the Commission use ORA's proposed Pilot Plan Framework to achieve pilot evaluation objectives.[36] ORA further recommends the Commission schedule proceedings to consider and adopt the Cal EVIP because it envisions an AFV OIR track to develop policies for the design and implementation of IOU EVSE programs while deploying EVSE pilots in each IOU territory to ensure no delays in EV charger deployment and EV adoption. Cal EVIP could also inform how policies developed in the AFV OIR should be modified to make successive pilots or full-scale EVSE rollouts more effective. ORA also supports ChargePoint's recommendation that an advisory board, consisting of CPUC

[33] Broad Outreach refers to the outreach and marketing channels and content that will be used to inform consumers of the economic and environmental benefits electric vehicles have as well as how electric vehicles can help to reduce greenhouse gas emissions to mitigate the effects of climate change.

[34] GPI testimony p.6.

[35] Quinn, ChargePoint p. 24.

[36] ORA's Prepared Testimony on the Application of San Diego Gas and Electric Company for Authority to Implement a Pilot Program For Electric Vehicle-Grid Integration, Chapter 6.

staff and stakeholders, should guide the deployment of EV chargers in SDG&E's VGI Pilot Program.

B. SDG&E's VGI Pilot Program should focus on deployment of MuD rather than workplace EV chargers.

UCAN and TURN discussed their views on prioritizing EV charger deployment in specific EV market segments. UCAN supported deployment of workplace EV chargers because these chargers do not significantly impact cost-effectiveness while workplace EV charger deployment would serve both single-family and MuD EV drivers. Conversely, TURN claimed that deployment of workplace EV chargers should be deemphasized. TURN argues that 46% of EV owners already have access to workplace charging and that current EVs have the range to obviate workplace charging.[37]

ORA agrees with TURN that workplace EV infrastructure deployment should not be given as high a priority as MuD EV infrastructure deployment. Cal EVIP primarily focuses on MuD EVSE deployment because, as noted in ORA's opening testimony, EV driving range will likely increase in the near future due to advances in battery technology. This increase in EV driving range would then reduce the need for workplace EV chargers. While ORA agrees that EV charger deployment in workplaces would serve single family and MuD EV drivers, ORA has not analyzed the impact that MuD EV charger deployment would have on program cost-effectiveness. On this basis, ORA cannot support UCAN's claim that the deployment of workplace EV chargers should take precedence over the deployment EV chargers in MuDs.

C. SDG&E's VGI Pilot Program design should consider the needs of both EV drivers and Charging Station Site Hosts.

Several parties indicated that SDG&E's VGI Pilot Program should incorporate additional pilot design features that address customer needs. For example, ChargePoint and UCAN both argue that the requirement for 10 EV charging stations at each site

[37] Borden, TURN testimony p. 12.

should be relaxed. ChargePoint states that EVSE infrastructure should be sized according to a reasonable forecast of EV charging demand.[38] UCAN claims that MuD size and sufficient capacity utilization to ensure cost-effectiveness should determine the number of EV charging stations.[39] ChargePoint also proposes that customer surveys should be administered to site hosts and EV drivers to obtain data regarding interest in IOU owned EVSEs, driving patterns, charging behavior, and tenancy turnover at MuD sites.[40] ChargePoint recommends that VGI Pilot Program customers, including site owners and EV drivers, have access to managed charging plans,[41] and that EVSEs should be available to non-SDG&E customers.[42]

ORA agrees with ChargePoint and UCAN that EVSE deployment should be based upon customer needs and projected EVSE use. As stated in testimony, ORA recommends that the Commission direct stakeholders to utilize ORA's proposed Pilot Design Framework to define tools (e.g., customer surveys) that will enable collection of information prior to siting of EVSEs.[43] ORA also concurs with ChargePoint that EV chargers should be accessible to non-SDG&E customers and that managed charging plans should also be accessible to site owners and EV drivers.

VI. ADMINISTRATION OF GREENHOUSE (GHG) CAP-AND-TRADE REVENUES

A. The Commission should require any use of GHG Cap-and-Trade allowance revenue to fund SDG&E's vehicle grid integration pilot program to adhere to the standards adopted in Decisions 12-12-033 and 14-10-033.

[38] Quinn, ChargePoint testimony p. 24

[39] Croyle, UCAN testimony p. 22, Croyle, UCAN testimony p. 8.

[40] Borden, ChargePoint testimony p. 26.

[41] Jensen, ChargePoint testimony p. 26.

[42] Quinn, ChargePoint testimony p. 24

[43] Prepared Testimony on the Application of San Diego Gas and Electric Company for Authority to Implement a Pilot Program For Electric Vehicle-Grid Integration, Chapter 6.

SDG&E asks that the Commission determine that its vehicle grid integration (VGI) pilot be "eligible to receive funding" from the revenues generated by selling GHG Cap-and-Trade allowances.[44] TURN recommends that if "the Commission authorize the use of allowance revenues for certain programs, [it] does so after careful consideration of alternative projects in a coordinated rulemaking."[45]

California Public Utilities Code Section 748.5(c) allows the Commission to allocate up to 15 percent of the GHG allowance revenue received for the benefit of electric ratepayers for clean energy and energy efficiency projects.[46] To be eligible for funding, projects must: (1) be established pursuant to statute; (2) be administered by the electrical corporation; and (3) not otherwise be funded.[47] Rulemaking (R.) 11-03-012 resulted in Decision (D.) 12-12-033 that outlined the steps to determine funding eligibility for clean energy or energy efficiency projects. D.12-12-033 determined: (1) the proposed project must seek and receive approval in relevant proceedings in which energy efficiency or clean energy programs are comprehensively reviewed; (2) following project approval, the utility must modify its GHG revenue balancing account tariff sheets, as necessary, to allow approved funding amount to be disbursed and recovered; and (3) the utility must include approved funding amount in its next, and future GHG [Forecast] Revenue and Reconciliation (FR&R) Applications.[48] D.12-12-033 further required that GHG emissions reduction **be a stated and measurable goal of any proposed project (*emphasis added)***.[49] D.14-10-033 subsequently implemented procedures to allow

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[44] A.14-06-014, SDG&E VGI Pilot Testimony, p.LK-14.

[45] Hawiger, TURN testimony, p. 17.

[46] California Public Utilities Code Section 748.5(c) states, "The Commission may allocate up to 15 percent of the revenues, including any accrued interest, received by an electric corporation as a result of the direct allocation of [GHG] allowances to electrical distribution utilities pursuant to subdivision (b) of Section 95890 of Title 17 of the California Code of Regulations, for clean energy and energy efficiency projects established pursuant to statute that are administered by the electrical corporation and that are not otherwise funded by another funding source."

[47] Public Utilities Code Section 748.5(c).

[48] D.12-12-033, p. 135.

[49] D.12-12-033, p. 135.

electric utilities to request funds and to ensure the availability of funds after approval of the clean energy project.[50]

There is no doubt that replacing emissions intensive-gasoline vehicles with EVs will reduce emissions in California.[51] Therefore, if the Commission approves SDG&E's application, then ORA supports SDG&E's request that the Commission make available up to 15 percent of the GHG allowance revenue for SDG&E's VGI pilot program according to the process adopted in D.12-12-033 and D.14-10-033. But SDG&E will need to demonstrate that its VGI Pilot Program has a stated and measurable primary goal to directly reduce GHG emissions. SDG&E will have to provide more information regarding the GHG implications of this project in order to receive funding from GHG allowance revenues. ORA recommends the Commission direct SDG&E to explain how GHG reductions resulting from the VGI Pilot Program will be measured and evaluated. This may include providing estimated percentages of EVs purchased related to the VGI Pilot Program and the estimated VGI Pilot Program-related increases in ZEV miles traveled per electric vehicle. Such data could provide some insight into GHG reductions associated with the proposed VGI Pilot Program. The Commission should direct

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[50] D.14-10-033, p. 28, provided: "(1)As part of the FR&R application, a utility should forecast the mount of allowance revenue that other proceedings can appropriate for clean energy and EE projects (the Forecast Clean Energy Amount). The existence of the Forecast Clean Energy Amount will demonstrate that funds are available for qualified projects (Clean Energy Projects) to be approved in other proceedings.

(2)When seeking approval of a project, the utility should include the following in its request: (a) explain why the project qualifies under Section 748.5(c), (b) explain why the project is best funded using GHG allowance revenues instead of ordinary recovery through rates, and (c) reference the Forecast Clean Energy Amount.

(3)If a project is subsequently approved and the utility has authority to track recorded expenses in an appropriate balancing account, these expenses should be reflected and reconciled in the utility's next GHG FR&R application.

(4) Funds used for Clean Energy Projects are still subject to any reasonableness reviews required as part of the project approval and the Forecast Clean Energy Amount must still be reconciled against the recorded allowance revenues, but the Clean Energy Project funds are otherwise unencumbered."

[51] See *February 2015 Climate Change Research Plan for California,* California Environmental Protection Agency, p.20. Available at: http://climatechange.ca.gov/climate_action_team/reports/CAT_research_plan_2015.pdf

SDG&E to provide a more developed methodology to measure GHG reductions before it approves funding from GHG allowance revenue.

VII. INTEROPERABILITY

Adoption of an interoperability standard should not be a prerequisite for approval of SDG&E's VGI Pilot Program.

ORA's opening testimony did not address adoption of an interoperability standard to be used in SDG&E's VGI Pilot Program. KnGrid, a developer of a telecommunications capacity exchange, stated that two VGI standards, International Standards Organization (ISO)/ International Electrotechnical Commission (IEC) 11518 and Smart Energy Profile (SEP) 2.0, are currently in use but were not referenced in SDG&E's VGI Pilot Program application.[52] KnGrid supports approval of SDGE's VGI application in the event that a VGI interoperability standard is adopted prior to such approval.

While ORA agrees that the Commission should examine the need to adopt an interoperability standard in SDG&E's application, the lack of adoption of such a standard should not prevent deployment of EVSE pilots in each IOU's service territory. ORA suggests that a separate track of the Alternative Fuel Rulemaking (AFV) OIR could examine this issue while the Cal EVIP is launched (e.g., ME&O, EVSE site selection, etc.).

VIII. COORDINATION WITH SDG&E'S DISTRIBUTED RESOURCE PLAN

The Commission and SDG&E should consider the proposed VGI Pilot Program in the context of the Assembly Bill (AB) 327 Distribution Resource Plans.

[52] KnGrid Testimony on SDG&E Application for Approval of Its Electric Vehicle Grid Integration Pilot Program, p.6.

Green Power Institute (GPI) claims that as EV adoption accelerates, the IOUs will need to significantly upgrade the distribution infrastructure to accommodate the additional load attributed to higher EV penetration. Given this potential scenario, GPI asserts that SDG&E's VGI Pilot Program should be coordinated with SDG&E's Distributed Resource Plan (DRP).

ORA agrees. Given the potential to spur distribution upgrades during pilot deployment, ORA recommends that the IOUs coordinate its efforts with those undertaken in its DRP. This will ensure that integrated capacity and locational benefits data and findings will be harmonized in both regulatory proceedings.

IX. ORA'S ALTERNATIVE EVSE PILOT PROPOSAL, THE CALIFORNIA ELECTRIC VEHICLE INFRASTRUCTURE PILOT

Pursuant to Rule 11.1 of the California Public Utilities Commission's Rule of Practice and Procedure, the Office of Ratepayer Advocates (ORA) files this motion requesting that the Commission consolidate the Application of Southern California Edison Company for Approval of its Charge Ready and Market Education Programs (Charge Ready Program) and the Application of Pacific Gas and Electric Company for Approval of its Electric Vehicle Infrastructure and Education Program (EVI Program) with the Order Instituting Rulemaking (R.) to Consider Alternative-Fueled Vehicle Programs, Tariffs, and Policies (R.13-11-007) (AFV OIR) and hold proceedings to consider and adopt ORA's proposed California Electric Vehicle Infrastructure Pilot (Cal EVIP) Program. SDG&E's, SCE's and PG&E's applications involve sufficient common issues of law and fact to justify consolidation. Consolidating these proceedings and initiating new proceedings to consider and adopt the Cal EVIP program will jump start EV charging station infrastructure deployment in the three IOUs' service territories; promote administrative efficiency; and conserve the Commission's and parties' resources, all while developing fundamental policy issues for State-wide electric vehicle infrastructure that is in a separate track of the AFV OIR.

I. INTRODUCTION

Various stakeholders, including ORA, met on March 25, 2015 to discuss policy concerns across all three investor owned utilities' (IOUs) electric vehicle infrastructure applications. These policy issues include ratepayer funding, anti-competitive impacts, administration of marketing, education and outreach (ME&O) efforts, methods to alleviate electric vehicle supply equipment (EVSE) barriers, EVSE deployment in disadvantaged communities, and cost-effectiveness methodology. ORA recommends that the Commission address these broad policy issues in a new, separate track of the Alternative-Fueled Vehicle Order Instituting Rulemaking ((R.) 13-11-007). However, to accelerate Electric Vehicle (EV) charging station infrastructure deployment, ORA also asks the Commission to hold proceedings to consider and approve its alternate proposal for deployment of IOU electric vehicle infrastructure pilots.

ORA respectfully requests the Commission to:

1) Consolidate SCE's Charge Ready Program and PG&E's EVI Program with the AFV OIR and SDG&E's VGI Pilot Program;

2) Following consolidation, the Commission should schedule a prehearing conference to schedule proceedings to consider and adopt ORA's proposed California Electric Vehicle Infrastructure Pilot (Cal EVIP) Program;

3) Direct SDG&E, SCE and PG&E to file new applications for pilot programs that comport with ORA's recommended Cal EVIP program;

4) Hold in abeyance SDG&E's VGI Pilot Program;

5) Hold in abeyance SCE's Charge Ready Program;

6) Hold in abeyance PG&E's EVI Program; and

7) If the Commission adopts the above recommendations, the hearing on SDG&E's application should be taken off calendar.

II. DISCUSSION

A. The Commission Should Consolidate SCE's Charge Ready Program and PG&E's EVI Program with the AFV OIR and SDG&E's VGI Pilot Program

ORA recommends that the Commission consolidate SCE's Charge Ready Program and PG&E's EVI Program with the AFV OIR and SDG&E's VGI Pilot Program based on these common questions of law and fact:

1. What is the utilities' appropriate role in developing and supporting EV charging infrastructure?

2. How can the Commission balance the benefits of utility ownership of EV charging infrastructure against the competitive limitation that may result from that ownership?

3. What financing opportunities are available to defray ratepayer costs? The scope of R.13-11-007 includes exploring how financing opportunities can unlock long-term value in EVs or reduce upfront costs as a means of accelerating EV adoption and infrastructure deployment.

4. How can the Commission structure the administration of marketing, education and outreach (ME&O) efforts, such that: (1) customers are educated in a competitively neutral manner; (2) duplicative spending on separate marketing by the utilities is eliminated; and (3) customers receive clear, accurate, and coherent information that explains the electric vehicle program and its importance towards meeting California's larger climate change strategies?

5. What policies, practices, and procedures and methods should the Commission adopt to alleviate EVSE barriers, enhance EVSE utilization, and promote EV adoption in underserved markets including multi-unit dwellings and workplaces?

6. What policies, practices and procedures can best ensure that EV charging station deployment in the target market of disadvantaged communities encourages EV adoption?

The Commission should consolidate all three IOU applications to ensure that these common issues are addressed consistently. Further, consolidated proceedings to consider and adopt Cal EVIP offers an opportunity to obtain pilot data and results that can inform the Commission's development of a consistent set of policies, practices and procedures for EVSE infrastructure in the State.

B. The Commission Should Schedule Proceedings to Consider and Adopt ORA's Cal EVIP Program To Jumpstart Deployment of Electric Cars in California

Cal EVIP anticipates deploying EV charging station infrastructure in all three IOU service territories without delay, to both support California's EV goals and bolster third-party EVSP businesses and minimize ratepayer funding of electric vehicle infrastructure. Under Cal EVIP, each IOU will have an opportunity to deploy EV charging station infrastructure pilots according to its customer base. Implementing Cal EVIP will identify strategic locations for EV charging station siting to increase EV adoption and will assess the effect of an increase in EVSE on EV adoption. Under Cal EVIP, the IOUs do not own charging stations, thereby eliminating the anti-competitive market issue that concerns many parties. But Cal EVIP may identify areas where IOU ownership of charging stations is warranted which will in turn increase EV adoption.

ORA's alternative approach to EVSE deployment expedites the deployment of EV charging stations in California while fundamental policy issues that are common to all or some of the IOU applications are considered concurrently in the AFV OIR through a stakeholder-led process. The development of a consensus based program design and implementation framework in the AFV OIR, including tools, methodologies, metrics, data analysis techniques, and reporting requirements, should converge with Cal EVIP and inform and shape effective future full-scale EV infrastructure programs. Instead of delaying deployment of EV infrastructure, Cal EVIP will start the process in three statewide pilots while the Commission and the parties wrestle with fundamental policy concerns in a separate track of the AFV OIR.

1. Cal EVIP OBJECTIVES

The objectives of Cal EVIP include, but are not limited to:

1) Testing methods to identify strategic locations for charging stations that will increase EV adoption and Zero Emission Vehicle (ZEV) miles driven;

2) Testing how siting infrastructure at these locations affects EVSE use and load on distribution circuits;

3) Gathering and analyzing data on non-EVSE related barriers to EV adoption, including EV rates and bill impacts.

4) Gathering and analyzing data on the role that post-site selection factors play in EVSE utilization. These factors include but are not limited to:

- Parking space access;
- Interest in installing a minimum number of EV chargers
- Interest in Level 1 or Level 2 chargers;
- Interest in future participation in demand response; and
- Interest in adopting managed charging or scheduling plans.

5) Gauging the impact of ratepayer funded charging station infrastructure on charging station deployment, including the effect of:

- Reduced EV Supply Infrastructure costs on enrollment in Cal EVIP;
- EV charger rebates on EVSE deployment;
- Site owners' willingness to permit construction of make ready infrastructure; and
- Site owners' willingness to grant IOUs an easement, if necessary, to install make ready infrastructure.

6) Refining cost estimates for EV charging station related infrastructure and EV chargers, including identifying the sites that require distribution infrastructure upgrades.

2. DATA GATHERING AND ANALYSIS, REPORTING & PROGRAM MODIFICATIONS

Cal EVIP would require the IOUs to collect data from a variety of sources including EV charger information technology and communications software, site owner and EV driver surveys, and distribution infrastructure capacity surveys. Under Cal EVIP, the IOUs will submit this data and related findings to the Commission and stakeholders quarterly. Once this data is collected, elements of Cal EVIP can be modified to increase its effectiveness.

3. Cal EVIP SCOPE AND SCALE

The IOUs should build EV infrastructure to support EV charging stations. The EV infrastructure will include the EV Service Connection and EV Supply Infrastructure (as defined by PG&E in its application and shown in Figure 1, titled "PG&E Company EV Program Distribution Infrastructure" attached below). For purposes of Cal EVIP implementation, ORA recommends the following for each service territory:

- 350 EV charging stations to be deployed in SDG&E's service territory;
- 1500 EV charging stations to be deployed in SCE's service territory; and
- 1700 EV charging stations to be deployed in PG&E's service territory.

ORA's estimates are based on the 1500 charging stations SCE proposed for its Phase 1 pilot. The 1500 charging stations were then scaled by the number of customers that each of the IOUs have in their service territory—the scaling uses SCE's 14 million customers as the base. The number of customers in PG&E's and SDG&E's service territories are 16 million and 3.3 million customers, respectively. As 350 EV charging stations may not be sufficient to promote EV adoption in SDG&E's service territory,

ORA recommends that 500 EV charging stations be deployed in SDG&E's service territory.

4. Cal EVIP LENGTH

Typically, pilots should be deployed for a sufficient period of time to collect data to verify if the pilot goals were achieved and identify the barriers to its success. ORA recommends that data obtained from the Cal EVIP should be reported on a quarterly basis for 12 to 18 months. This will allow sufficient time to identify and address potential barriers to EVSE deployment including EVSE site selection, obtaining approval from site hosts, and development of managed EV charging plans.

5. Cal EVIP COST

SCE estimates that Phase 1 of its proposed pilot will cost approximately $21.6 million. This includes $5.85 million for EV charger rebates, $3 million for broad ME&O, and $0.5 million for program-specific outreach. Without these elements, the pilot costs approximately $12.25 million. ORA recommends that each IOU should be authorized a budget according to its pilot size, plus: (1) an additional $0.5 million for pilot-specific marketing and outreach efforts (at this time, ORA recommends that Cal EVIP should only include funding for pilot-specific marketing and outreach efforts), and (2) an additional amount to include rebates as described below.

Based on ORA's recommended pilot size for each IOU and using SCE's estimated cost of $12.25 million to install 1500 charging stations, PG&E should be authorized $14.38 million to install 1700 charging stations and SDG&E should be authorized $4.58 million to install 500 charging stations. These estimates exclude funds authorized for charging station rebates.

6. COST ALLOCATION (During the Implementation of Cal EVIP)

A. EV Service Connection (distribution side of the meter) – ORA recommends that the distribution infrastructure including transformer, service drop and meter be rate-based**.**

B. EV Supply Infrastructure (landowner side of the meter, e.g., panel, conductor) – ORA recommends that the EV supply infrastructure (also referred to as the "make ready" component) be rate-based. By owning the EV Supply Infrastructure, the IOUs may be able to better ensure proper operation and maintenance. The issues of right of way or land easement would need further exploration.

C. Charging Stations (kiosk, pedestal, charger) and Installation – If the Commission determines that some form of rebates for chargers in charging stations may be necessary to help increase EV charging station deployment and EV adoption, then ORA would support partial ratepayer funding of rebates for the EV charging stations during the implementation of Cal EVIP. Rebates should only cover a small portion of the actual charging station cost to serve as an incentive rather than a subsidy.

SCE proposes rebates for qualified charging stations in an amount that reflects the base cost (up to $3,900) for functionalities established by SCE and connection of those charging stations to SCE's infrastructure. SCE intends to qualify charging stations according to three minimum functionality profiles:

1) Level 1 charging station, without network capability;

2) Level 2 charging station, with network capability integrated into the charging station; and

3) Level 2 charging station, with network capability provided by an external device (such as a kiosk or gateway) shared among multiple stations.

ORA's rebate recommendation in Cal EVIP is as follows. Rebates should only comprise 25% of the base cost, with a cost cap. The base cost will depend on the results of a request for information (RFI) process yet to be conducted, similar to that proposed in SCE's Charge Ready Program. The rebate of 25% will be offered in two stages: first, 15% of the base cost can be offered upon installation of the charging stations, and then the remaining 10% of the rebate can be offered upon a showing of sufficient utilization (i.e. 50% utilization of EV chargers at each site) at the end of the Cal EVIP program. This approximate rebate amount of $1000 on the EV charger base cost cap is similar in scale to EV charger rebates offered by the City of Anaheim for Level 2 chargers.

An EV charger rebate of 25% also mirrors the relative cost of an EV and its associated vehicle credit. For example, the highest listed manufacturer's suggested retail price (MSRP) price of a 2015 model Nissan Leaf is $35,120. This automobile is eligible for a federal Qualified Plug-In Electric Drive Motor Vehicle Credit of $7,500. The Qualified Plug-In Electric Drive Motor Vehicle Credit comprises of approximately 21% of the Nissan Leaf's total cost. As such, a corresponding rebate of 25% of the total cost of EV charging stations is reasonable.

Results from the Cal EVIP will help to better determine the extent that defraying EV charger costs through a 25% rebate is warranted. The metrics to measure sufficient utilization in relationship to rebate amount can be determined during the parallel track in the AFV OIR.

7. MARKETING, EDUCATION & OUTREACH

Cal EVIP contains only pilot specific outreach. ORA recommends that the utilities conduct pilot specific outreach and marketing at this time, while broad outreach of electric vehicle marketing, education, and outreach program should be administered through Energy Upgrade California (EUC).

Conducting broad outreach through EUC to the public would ensure that: (1) customers are educated in a competitively neutral manner; (2) duplicative spending on separate

marketing by the utilities is eliminated; and (3) customers receive clear, accurate, and coherent information that explains the electric vehicle program and California's larger climate change strategies to reduce greenhouse gas emissions through the electrification of the transportation sector.

8. UTILITY ROLE

Under Cal EVIP, the IOUs' role is to facilitate EV infrastructure deployment. This includes upgrades to the distribution system, if required, and deployment of EV Supply Infrastructure on the customer's side of the meter through a request for information (RFI) process.

Cal EVIP does not propose IOU ownership of charging stations at this time. ORA recommends this topic be addressed among other fundamental policy issues in a separate track of the AFV OIR. The IOUs will own distribution upgrades and EV Supply Infrastructure while third parties will own EV Charging Stations. However, implementing Cal EVIP may identify areas where IOU ownership of charging stations is essential to encourage EV adoption.

9. SITING OF EV CHARGING STATIONS

At this time, third-party EVSPs may be better suited to determine where to site EV charging stations than the IOUs. However, ORA recommends that the EVSPs and IOUs target EVSE deployment strategically in areas that will explicitly measure the increase of EV adoption. This could be achieved by classifying geographic areas into three general categories: 1) EVSE developed (areas where there is a high penetration of EVSEs), 2) EVSE semi-developed (areas that deemed to have a moderate level of EVSE penetration), and 3) EVSE minimally-developed (areas that have a sparse level of EVSE penetration). After "EVSE semi-developed" or "EVSE minimally developed" areas have been identified, EVSPs and IOUs could partner to determine if there is interest in EVSEs and if residents would invest in EVs if EV charging stations were available to them. If there is customer interest, and EV charging stations are deployed in these areas, Cal EVIP

results will give quantifiable data for the Commission and the parties to determine if increasing EV infrastructure promoted the purchase of electric vehicles.

10. DISADVANTAGED COMMUNITIES

ORA generally agrees that disadvantaged communities , should benefit from any ratepayer funded pilot program in order to encourage EV adoption. ORA acknowledges that due to significant barriers to EV adoption—the relatively high price of EVs in relationship to income level in these communities—EV adoption may be slow. The rate of EV adoption in disadvantaged communities may initially create underutilized or stranded assets. However, deploying charging stations in this sector deserves special consideration because the stations, coupled with ME&O, may encourage people to purchase EVs. In this market sector, ORA recommends siting of EV charging stations in multi-unit dwellings (MuD) versus workplaces. ORA also recommends the deployment of shared charging station models among many MuDs (for example, EV charging stations may be located in one MuD's parking lot, but may be accessible, through service arrangements, by residents from other MuDs). Deployment conducted in this manner may mitigate the potential for stranded assets paid for by ratepayers while increasing exposure to EVs in disadvantaged communities. (It may also lead to a greater geographical diversity of EV charging station deployment that may ultimately encourage more EV adoption.

Cal EVIP may identify areas where IOU ownership of charging stations is essential to encourage EV adoption in future deployment. Due to a potentially low EV adoption rate in disadvantaged communities, and third party EVSPs' possible reluctance to conduct business in what now may be a low-profit area, the disadvantaged community sector may be one where IOUs may better serve the market. A ratepayer funded deployment of EV charging infrastructure and charging stations would add charging infrastructure in areas that would otherwise not be served by third party EVSPs. Using ratepayer funding in this market would also avoid ratepayer funding for charging stations

that would otherwise be installed regardless if ratepayer funding was present or not—the "free ridership" problem.

X. CONCLUSION

If implemented by the Commission, Cal EVIP will start the process of EV charging station infrastructure deployment in the service territories of the three IOUs—PG&E, SCE and SDG&E. Cal EVIP will encourage a competitive EVSE market and leverage third-party investment by encouraging third party EVSPs to take advantage of EV charging station infrastructure deployment. ORA recommends that the Commission consolidate SCE's Charge Ready Program and PG&E's EVI Program with the AFV OIR and SDG&E's VGI Pilot Program and hold proceedings to consider and adopt Cal EVIP so that fundamental policy issues that are common to all the IOU applications can be discussed in parallel through a separate track of the AFV OIR.

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4) Hold in abeyance SDG&E's VGI Pilot Program;

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